

ATTACHMENT B

Marked Up Replacement Claims

Following herewith is a marked up copy of each rewritten claim together with all other pending claims.

1. A method of forming a digital directional coupler, which comprises at least two optical waveguides, said method comprising scanning a laser beam across a photosensitive material to induce refractive index changes in the material to form each of the waveguides, wherein the scanning speed is varied to create a refractive index taper of a selected functional form in each of the waveguides.
2. A method as claimed in claim 1 wherein the laser beam has a doughnut type irradiance distribution.
3. (amended) A method as claimed in ~~any previous claim~~ claim 1 wherein the laser is a TEM_{01}^* mode laser.
4. (amended) A method as claimed in ~~any previous claim~~ claim 1 wherein the mode of the laser is chosen so as to provide an increased coupling strength between adjacent ones of the waveguides.
5. (amended) A method as claimed in ~~any previous claim~~ claim 1 wherein the photosensitive material is in a planar form.
6. (amended) A method as claimed in ~~any previous claim~~ claim 1 wherein the scanning speed is varied during the forming of each waveguide in a manner such that adjacent ones of the waveguides are refractive index tapered in opposite directions.
7. (amended) ~~A digital directional coupler An optical waveguide~~ device when produced utilizing the method of ~~any one of the previous claims~~ as claimed claim 1.